Is job rotation a risk factor for carpal tunnel syndrome or not ?

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Résumé en anglais	**Purposes** The literature on job rotation (JR) and carpal tunnel syndrome (CTS) is sparse and conflicting(1). Our aim was to discuss the findings of the Pays de la Loire study on JR and CTS(2). **Methods** Cross-sectional study (2002-2005): 3,710 workers representative of a French region's working population were examined by occupational physicians using a standardized physical examination(3). Personal factors and work exposures were assessed by self-administered questionnaire. Prospective study (2007-2010): 1,611 workers were re-examined. Statistical associations between CTS and personal and work-related factors were analyzed for each gender using logistic regression modeling. **Results** Cross sectional (CS) study: CTS were diagnosed in 89 women and 67 men. JR between several workstations on various days of the week (≥1/week) was highly associated with CTS in men (OR=2.45, 95% CI 1.41-4.24) (but not in women), after adjustment on personal, biomechanical and psychosocial risk factors. Prospective study: CTS were diagnosed in 21 men and 38 women. No significant association was observed with JR. **Discussion** JR between several workstations was highly associated with CTS (in men) in the CS study. The follow up did not confirm this result and, even more, showed an unsignificant trend for an opposite effect of JR. This inconsistency could be explained by methodological reasons (selection bias, statistical modeling, lack of statistical power, etc.). Nevertheless, JR could have several effects depending of the organization of the rotation between jobs and the jobs characteristics. JR is expected to increase the variability of wrist movements and to decrease the mechanical load(1). Moreover, JR is often associated with higher numbers of actions performed during the time cycle (job enlargement), which increases the favorable effect of JR in industrial and meat processing workers. The impact of JR could be less favorable in workers of the service industry exposed to less standardized work. In particular, JR increases the task complexity and the number of actions to learn. In lack of training, workers can be insufficiently skilled to cope with all dimensions of the tasks, leading them to adopt unsafe working techniques that may increase the risk of CTS. JR without adequate training may therefore be less effective than expected. The occurrence of opposite effects of JR could explain our conflicting results. **Conclusions** JR could have contradictory effects in the regional workforce. More quantitative and qualitative studies are needed to better understand the impact of the various forms of JR on CTS.
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